



IFWO

RAW SEQUENCE LISTING

DATE: 10/07/2004

PATENT APPLICATION: US/10/713,182

TIME: 10:55:30

Input Set : A:\sequence.ST25.txt

Output Set: N:\CRF4\10072004\J713182.raw

3 <110> APPLICANT: Otto, Eric
 4 Escovar-Kousen, Jose
 6 <120> TITLE OF INVENTION: Ethanol Production By Simultaneous Saccharification and
 7 Fermentation (SSF)
 9 <130> FILE REFERENCE: 10325.200-US
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/713,182
 C--> 11 <141> CURRENT FILING DATE: 2003-11-14
 11 <160> NUMBER OF SEQ ID NOS: 8
 13 <170> SOFTWARE: PatentIn version 3.9
 15 <210> SEQ ID NO: 1
 16 <211> LENGTH: 25
 17 <212> TYPE: PRT
 18 <213> ORGANISM: Talaromyces emersonii
 21 <220> FEATURE:
 22 <221> NAME/KEY: misc_feature
 23 <222> LOCATION: (13)..(13)
 24 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid
 26 <400> SEQUENCE: 1
 W--> 28 Ala Asn Gly Ser Leu Asp Ser Phe Leu Ala Thr Glu Xaa Pro Ile Ala
 29 1 5 10 15
 32 Leu Gln Gly Val Leu Asn Asn Ile Gly
 33 20 25
 36 <210> SEQ ID NO: 2
 37 <211> LENGTH: 20
 38 <212> TYPE: PRT
 39 <213> ORGANISM: Talaromyces emersonii
 41 <400> SEQUENCE: 2
 43 Val Gln Thr Ile Ser Asn Pro Ser Gly Asp Leu Ser Thr Gly Gly Leu
 44 1 5 10 15
 47 Gly Glu Pro Lys
 48 20
 51 <210> SEQ ID NO: 3
 52 <211> LENGTH: 22
 53 <212> TYPE: PRT
 54 <213> ORGANISM: Talaromyces emersonii
 57 <220> FEATURE:
 58 <221> NAME/KEY: misc_feature
 59 <222> LOCATION: (1)..(1)
 60 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid
 62 <220> FEATURE:
 63 <221> NAME/KEY: misc_feature
 64 <222> LOCATION: (12)..(12)
 65 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid

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67 <400> SEQUENCE: 3

W--> 69 Xaa Asn Val Asn Glu Thr Ala Phe Thr Gly Pro Xaa Gly Arg Pro Gln
 70 1 5 10 15

73 Arg Asp Gly Pro Ala Leu

74 20

77 <210> SEQ ID NO: 4

78 <211> LENGTH: 35

79 <212> TYPE: PRT

80 <213> ORGANISM: Talaromyces emersonii

82 <400> SEQUENCE: 4

84 Asp Val Asn Ser Ile Leu Gly Ser Ile His Thr Phe Asp Pro Ala Gly

85 1 5 10 15

88 Gly Cys Asp Asp Ser Thr Phe Gln Pro Cys Ser Ala Arg Ala Leu Ala

89 20 25 30

92 Asn His Lys

93 35

96 <210> SEQ ID NO: 5

97 <211> LENGTH: 16

98 <212> TYPE: PRT

99 <213> ORGANISM: Talaromyces emersonii

102 <220> FEATURE:

103 <221> NAME/KEY: misc_feature

104 <222> LOCATION: (2)..(2)

105 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid

107 <400> SEQUENCE: 5

W--> 109 Thr Xaa Ala Ala Ala Glu Gln Leu Tyr Asp Ala Ile Tyr Gln Trp Lys

110 1 5 10 15

113 <210> SEQ ID NO: 6

114 <211> LENGTH: 35

115 <212> TYPE: PRT

116 <213> ORGANISM: Talaromyces emersonii

118 <400> SEQUENCE: 6

120 Ala Gln Thr Asp Gly Thr Ile Val Trp Glu Asp Asp Pro Asn Arg Ser

121 1 5 10 15

124 Tyr Thr Val Pro Ala Tyr Cys Gly Gln Thr Thr Ala Ile Leu Asp Asp

125 20 25 30

128 Ser Trp Gln

129 35

132 <210> SEQ ID NO: 7

133 <211> LENGTH: 591

134 <212> TYPE: PRT

135 <213> ORGANISM: Talaromyces emersonii

137 <400> SEQUENCE: 7

139 Ala Thr Gly Ser Leu Asp Ser Phe Leu Ala Thr Glu Thr Pro Ile Ala

140 1 5 10 15

143 Leu Gln Gly Val Leu Asn Asn Ile Gly Pro Asn Gly Ala Asp Val Ala

144 20 25 30

147 Gly Ala Ser Ala Gly Ile Val Val Ala Ser Pro Ser Arg Ser Asp Pro

148 35 40 45

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151 Asn Tyr Phe Tyr Ser Trp Thr Arg Asp Ala Ala Leu Thr Ala Lys Tyr
152      50                      55                      60
155 Leu Val Asp Ala Phe Asn Arg Gly Asn Lys Asp Leu Glu Gln Thr Ile
156 65                      70                      75                      80
159 Gln Gln Tyr Ile Ser Ala Gln Ala Lys Val Gln Thr Ile Ser Asn Pro
160                      85                      90                      95
163 Ser Gly Asp Leu Ser Thr Gly Gly Leu Gly Glu Pro Lys Phe Asn Val
164      100                      105                      110
167 Asn Glu Thr Ala Phe Thr Gly Pro Trp Gly Arg Pro Gln Arg Asp Gly
168      115                      120                      125
171 Pro Ala Leu Arg Ala Thr Ala Leu Ile Ala Tyr Ala Asn Tyr Leu Ile
172      130                      135                      140
175 Asp Asn Gly Glu Ala Ser Thr Ala Asp Glu Ile Ile Trp Pro Ile Val
176 145                      150                      155                      160
179 Gln Asn Asp Leu Ser Tyr Ile Thr Gln Tyr Trp Asn Ser Ser Thr Phe
180      165                      170                      175
183 Asp Leu Trp Glu Glu Val Glu Gly Ser Ser Phe Phe Thr Thr Ala Val
184      180                      185                      190
187 Gln His Arg Ala Leu Val Glu Gly Asn Ala Leu Ala Thr Arg Leu Asn
188      195                      200                      205
191 His Thr Cys Ser Asn Cys Val Ser Gln Ala Pro Gln Val Leu Cys Phe
192      210                      215                      220
195 Leu Gln Ser Tyr Trp Thr Gly Ser Tyr Val Leu Ala Asn Phe Gly Gly
196 225                      230                      235                      240
199 Ser Gly Arg Ser Gly Lys Asp Val Asn Ser Ile Leu Gly Ser Ile His
200      245                      250                      255
203 Thr Phe Asp Pro Ala Gly Gly Cys Asp Asp Ser Thr Phe Gln Pro Cys
204      260                      265                      270
207 Ser Ala Arg Ala Leu Ala Asn His Lys Val Val Thr Asp Ser Phe Arg
208      275                      280                      285
211 Ser Ile Tyr Ala Ile Asn Ser Gly Ile Ala Glu Gly Ser Ala Val Ala
212      290                      295                      300
215 Val Gly Arg Tyr Pro Glu Asp Val Tyr Gln Gly Gly Asn Pro Trp Tyr
216 305                      310                      315                      320
219 Leu Ala Thr Ala Ala Ala Ala Glu Gln Leu Tyr Asp Ala Ile Tyr Gln
220      325                      330                      335
223 Trp Lys Lys Ile Gly Ser Ile Ser Ile Thr Asp Val Ser Leu Pro Phe
224      340                      345                      350
227 Phe Gln Asp Ile Tyr Pro Ser Ala Ala Val Gly Thr Tyr Asn Ser Gly
228      355                      360                      365
231 Ser Thr Thr Phe Asn Asp Ile Ile Ser Ala Val Gln Thr Tyr Gly Asp
232      370                      375                      380
235 Gly Tyr Leu Ser Ile Val Glu Lys Tyr Thr Pro Ser Asp Gly Ser Leu
236 385                      390                      395                      400
239 Thr Glu Gln Phe Ser Arg Thr Asp Gly Thr Pro Leu Ser Ala Ser Ala
240      405                      410                      415
243 Leu Thr Trp Ser Tyr Ala Ser Leu Leu Thr Ala Ser Ala Arg Arg Gln
244      420                      425                      430
247 Ser Val Val Pro Ala Ser Trp Gly Glu Ser Ser Ala Ser Ser Val Leu

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248          435          440          445
251 Ala Val Cys Ser Ala Thr Ser Ala Thr Gly Pro Tyr Ser Thr Ala Thr
252          450          455          460
255 Asn Thr Val Trp Pro Ser Ser Gly Ser Gly Ser Thr Thr Thr Ser
256 465          470          475          480
259 Ser Ala Pro Cys Thr Thr Pro Thr Ser Val Ala Val Thr Phe Asp Glu
260          485          490          495
263 Ile Val Ser Thr Ser Tyr Gly Glu Thr Ile Tyr Leu Ala Gly Ser Ile
264          500          505          510
267 Pro Glu Leu Gly Asn Trp Ser Thr Ala Ser Ala Ile Pro Leu Arg Ala
268          515          520          525
271 Asp Ala Tyr Thr Asn Ser Asn Pro Leu Trp Tyr Val Thr Val Asn Leu
272          530          535          540
275 Pro Pro Gly Thr Ser Phe Glu Tyr Lys Phe Phe Lys Asn Gln Thr Asp
276 545          550          555          560
279 Gly Thr Ile Val Trp Glu Asp Asp Pro Asn Arg Ser Tyr Thr Val Pro
280          565          570          575
283 Ala Tyr Cys Gly Gln Thr Thr Ala Ile Leu Asp Asp Ser Trp Gln
284          580          585          590
287 <210> SEQ ID NO: 8
288 <211> LENGTH: 514
289 <212> TYPE: PRT
290 <213> ORGANISM: B. stearothermophilus
292 <400> SEQUENCE: 8
294 Ala Ala Pro Phe Asn Gly Thr Met Met Gln Tyr Phe Glu Trp Tyr Leu
295 1          5          10          15
298 Pro Asp Asp Gly Thr Leu Trp Thr Lys Val Ala Asn Glu Ala Asn Asn
299          20          25          30
302 Leu Ser Ser Leu Gly Ile Thr Ala Leu Trp Leu Pro Pro Ala Tyr Lys
303          35          40          45
306 Gly Thr Ser Arg Ser Asp Val Gly Tyr Gly Val Tyr Asp Leu Tyr Asp
307          50          55          60
310 Leu Gly Glu Phe Asn Gln Lys Gly Ala Val Arg Thr Lys Tyr Gly Thr
311 65          70          75          80
314 Lys Ala Gln Tyr Leu Gln Ala Ile Gln Ala Ala His Ala Ala Gly Met
315          85          90          95
318 Gln Val Tyr Ala Asp Val Val Phe Asp His Lys Gly Gly Ala Asp Gly
319          100          105          110
322 Thr Glu Trp Val Asp Ala Val Glu Val Asn Pro Ser Asp Arg Asn Gln
323          115          120          125
326 Glu Ile Ser Gly Thr Tyr Gln Ile Gln Ala Trp Thr Lys Phe Asp Phe
327          130          135          140
330 Pro Gly Arg Gly Asn Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His
331 145          150          155          160
334 Phe Asp Gly Val Asp Trp Asp Glu Ser Arg Lys Leu Ser Arg Ile Tyr
335          165          170          175
338 Lys Phe Arg Gly Ile Gly Lys Ala Trp Asp Trp Glu Val Asp Thr Glu
339          180          185          190
342 Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp His

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```

343          195          200          205
346 Pro Glu Val Val Thr Glu Leu Lys Ser Trp Gly Lys Trp Tyr Val Asn
347      210          215          220
350 Thr Thr Asn Ile Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys
351 225          230          235          240
354 Phe Ser Phe Phe Pro Asp Trp Leu Ser Asp Val Arg Ser Gln Thr Gly
355          245          250          255
358 Lys Pro Leu Phe Thr Val Gly Glu Tyr Trp Ser Tyr Asp Ile Asn Lys
359          260          265          270
362 Leu His Asn Tyr Ile Met Lys Thr Asn Gly Thr Met Ser Leu Phe Asp
363          275          280          285
366 Ala Pro Leu His Asn Lys Phe Tyr Thr Ala Ser Lys Ser Gly Gly Thr
367      290          295          300
370 Phe Asp Met Arg Thr Leu Met Thr Asn Thr Leu Met Lys Asp Gln Pro
371 305          310          315          320
374 Thr Leu Ala Val Thr Phe Val Asp Asn His Asp Thr Glu Pro Gly Gln
375          325          330          335
378 Ala Leu Gln Ser Trp Val Asp Pro Trp Phe Lys Pro Leu Ala Tyr Ala
379          340          345          350
382 Phe Ile Leu Thr Arg Gln Glu Gly Tyr Pro Cys Val Phe Tyr Gly Asp
383          355          360          365
386 Tyr Tyr Gly Ile Pro Gln Tyr Asn Ile Pro Ser Leu Lys Ser Lys Ile
387      370          375          380
390 Asp Pro Leu Leu Ile Ala Arg Arg Asp Tyr Ala Tyr Gly Thr Gln His
391 385          390          395          400
394 Asp Tyr Leu Asp His Ser Asp Ile Ile Gly Trp Thr Arg Glu Gly Val
395          405          410          415
398 Thr Glu Lys Pro Gly Ser Gly Leu Ala Ala Leu Ile Thr Asp Gly Pro
399          420          425          430
402 Gly Gly Ser Lys Trp Met Tyr Val Gly Lys Gln His Ala Gly Lys Val
403          435          440          445
406 Phe Tyr Asp Leu Thr Gly Asn Arg Ser Asp Thr Val Thr Ile Asn Ser
407      450          455          460
410 Asp Gly Trp Gly Glu Phe Lys Val Asn Gly Gly Ser Val Ser Val Trp
411 465          470          475          480
414 Val Pro Arg Lys Thr Thr Val Ser Thr Ile Ala Trp Ser Ile Thr Thr
415          485          490          495
418 Arg Pro Trp Thr Asp Glu Phe Val Arg Trp Thr Glu Pro Arg Leu Val
419          500          505          510
422 Ala Trp

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/713,182

DATE: 10/07/2004
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Input Set : A:\sequence.ST25.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 13 ✓
Seq#:3; Xaa Pos. 1,12 ✓
Seq#:5; Xaa Pos. 2 ✓

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/713,182

DATE: 10/07/2004

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Input Set : A:\sequence.ST25.txt

Output Set: N:\CRF4\10072004\J713182.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:28 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:69 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:109 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0